

MULTIMEDIA



UNIVERSITY

STUDENT IDENTIFICATION NO

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 2, 2018/2019

### TFF 2231 – FUNDAMENTALS OF FINANCE

(All sections / Groups)

5 MARCH 2019

9.00 AM – 11.00 AM

(2 Hours)

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#### INSTRUCTIONS TO STUDENT

1. This Question paper consists of 5 pages with 4 Questions only.
2. Attempt **ALL** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

**Answer ALL FOUR (4) questions. All questions carry equal marks and the distribution of the marks for each question is given.**

**QUESTION 1**

- A. Starting today, you deposited RM 100 into a fixed deposit account that will earn interest at 10% per year for 50 years.
- Calculate interest to be earned on that deposit on simple interest. (3 marks)
  - Calculate interest to be earned on that deposit on yearly compounding. (3 marks)
  - What is the interest on interest calculated in part a (ii) (3 marks)
  - Should you decide to place a deposit of RM 100 every year starting today, calculate the sum of your deposit and interest earned at the end of 50 years based on yearly compounding (hint: annuity due) (5 marks)
- B. Complex Systems Company has an outstanding issues of RM 1,000 par value bonds with a 12% coupon interest rate. The issue pays interest annually and has 16 years of remaining to its maturity date.
- If bonds of similar risks are currently earning a 10% rate of return (YTM), how much should the Complex Systems Company bond sell for today? (5 marks)
  - Define what is yield to maturity (YTM). (2 marks)
  - List **FOUR (4)** important characteristics on a bond. (4 marks)

**[TOTAL 25 MARKS]**

**Continued...**

**QUESTION 2**

A. JP Morgan Corp just paid a dividend of RM 2.00 recently and the dividend is expected to grow at 5% per year forever.

i. What are JP Morgan's dividends at period 1 ( $D_1$ ), period 2 ( $D_2$ ) and period 3 ( $D_3$ )? (3 marks)

ii. If your required return on such similar risk investment is 10%, calculate how much are you willing to pay for JP Morgan's stock today? What will be the price in year 2 ( $P_2$ )? If you are planning to sell the share in year 2, what is your capital gain? (4 marks)

iii. List **FOUR (4)** types of cash dividends. (4 marks)

B. As the director of capital budgeting for Denver Corporation, you are evaluating two mutually exclusive projects with the following net cash flows:

Year	Project X Cash Flow (RM)	Project Z Cash Flow (RM)
0	- 100,000	- 100,000
1	50,000	10,000
2	40,000	30,000
3	30,000	40,000
4	10,000	60,000

If Denver's cost of capital is 15 percent, answer the following questions:

- What is the payback period of both projects? (4 marks)
- What is the net present value of both projects? (6 marks)
- What is the profitability index of both projects? (2 marks)
- Based on your analysis above, which project Denver Corporation should invest and Justify your answer. (2 marks)

**[TOTAL 25 MARKS]**

**Continued...**

**QUESTION 3**

A. Multimedia Highway Construction is comparing two different capital structures. Plan I would result in 23,000 shares of stock and RM 320,000 in debt. Plan II would result in 17,000 shares of stock and RM 260,000 in debt. The interest rate on the debt is 10 percent. Ignoring taxes, EPS will be identical for Plans I and II when EBIT equals which one of the following?

- i. If you ignore taxes, what will be the EBIT if EPS is identical for Plans I and II. (6 marks)
- ii. Briefly explain what is the difference between equity and debt financing. (4 marks)

B. Energy Electric Berhad has a capital structure that consists of 70 percent equity and 30 percent debt. The company's long-term bonds have a before-tax yield to maturity of 8.4 percent. The company uses the Dividend Growth Model approach to determine the cost of equity. Energy's ordinary share currently trades at RM 40.5 per share. The year-end dividend ( $D_1$ ) is expected to be RM 2.50 per share, and the dividend is expected to grow forever at a constant rate of 7 percent a year. The company estimates that it will have to issue new common stock to fund for this year's projects. The company's tax rate is 40 percent.

- i. Define weighted average cost of capital (WACC), and give **TWO (2)** reasons why WACC is important to company? (6 marks)
- ii. Calculate the cost of debt and cost of equity? (4 marks)
- iii. Calculate WACC for Energy Electric Berhad. (5 marks)

**[TOTAL 25 MARKS]**

**Continued...**

**QUESTION 4**

- A. The Bike Store orders RM 2,000 worth of supplies every 30 days. If they take advantage of the 3/10 net 30 discount offered by their supplier.
- i. How much would they save over the year? Assume a 360-day year. (4 marks)
  - ii. What is credit analysis and why is it important? (3 marks)
  - iii. What are the **FIVE (5)** Cs of Credit in determining creditworthiness. (5 marks)
- B. Aladdin Carpet store expects to sell 5,000 carpets in the coming year. It costs the store RM15.00 in carrying costs for each carpet and RM100.00 for each order placed.
- i. What is the economic order quantity for the carpets? (5 marks)
  - ii. How many orders will be placed each year? (2 marks)
  - iii. What is the total inventory cost? (4 marks)
  - iv. If the store wants a one-week safety stock and it takes one week to receive an order after it has been placed, what should the inventory level be when a new order is placed? Assume a 52-week year. (2 marks)

**[TOTAL 25 MARKS]**

**Continued...**

## APPENDIX

**Future Value:**

$$FV = PV(1 + r)^t$$

**Annuities**

$$PV = PMT \left[ \frac{1 - \frac{1}{(1+r)^t}}{r} \right]$$

$$FV = PMT \left[ \frac{(1+r)^t - 1}{r} \right]$$

$$\text{Perpetuity: } PV = PMT / r$$

**EAR & APR**

$$EAR = \left[ 1 + \frac{APR}{m} \right]^m - 1$$

$$APR = m \left[ (1 + EAR)^{1/m} - 1 \right]$$

**Bond Pricing**

$$\text{Bond Value} = C \left[ \frac{1 - \frac{1}{(1+YTM)^t}}{YTM} \right] + \frac{F}{(1+YTM)^t}$$

**Stock Value**

$$\hat{P}_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+R)^t}$$

**Estimating Dividends**

$$\text{Zero growth: } P_0 = D / R$$

$$\text{Constant Growth Stock: } D_t = D_0(1+g)^t$$

**Dividend Growth Model:**

$$\hat{P}_0 = \frac{D_0(1+g)}{R - g} = \frac{D_1}{R - g}$$

**Nonconstant + Constant growth**

$$\hat{P}_0 = \frac{D_1}{(1+R)^1} + \frac{D_2}{(1+R)^2} + \frac{D_3}{(1+R)^3} + \dots + \frac{D_{\infty}}{(1+R)^{\infty}}$$

**Net Present Value**

$$NPV = \sum_{t=0}^n \frac{CF_t}{(1+R)^t} - CF_0$$

**Cost of equity**

$$R_E = R_f + \beta_E (E(R_M) - R_f)$$

**WACC**

$$= E/V \times R_E + P/V \times R_P + D/V \times R_D (1 - T_C)$$

**Operating cycle**

$$= \text{inventory period} + \text{accounts receivable period}$$

**Cash Cycle**

$$= \text{Operating Cycle} - \text{Accounts payable period}$$

**EOQ Model**

$$Q^* = \sqrt{\frac{2TF}{CC}}$$

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